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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

GEMMELL, ELIZABETH M

ART UNIT PAPER NUMBER

2882

DATE MAILED: 11-04-2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/715,261

Applicant(s)

CHOI ET AL.

Examiner

Beth Gemmell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 20 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1,2,5,10-13,16,21 and 22 is/are rejected.
- 7) ☐ Claim(s) 3,4,6-9,14,15,17-20 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 20 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

The disclosure is objected to because of the following informalities:

- Page 1, line 20: "envelop" ; should be --envelope--

Appropriate correction is required.

### *Claim Objections*

Claims 2,6,11,12,14,17,22, and 23 are objected to because of the following informalities:

- Claim 2: should be in the form of a Markush grouping (MPEP 2173.05h).  
"component of halides is one of"; should be --component of halides is  
chosen from the group containing--
- Claim 6: should be in the form of a Markush grouping (MPEP 2173.05h).  
"component of halides is one of"; should be --component of halides is  
chosen from the group containing--
- Claim 11: should be in the form of a Markush grouping (MPEP  
2173.05h). "wherein, the inert gas"; should be --wherein the inert gas is  
chosen from the group containing--
- Claim 12: should be in the form of a Markush grouping (MPEP  
2173.05h). "small amount of metals such as"; should be --small amount  
of metals chosen from the group containing--

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- Claim 14: should be in the form of a Markush grouping (MPEP 2173.05h). "component of halides is one of"; should be --component of halides is chosen from the group containing--
- Claim 17: should be in the form of a Markush grouping (MPEP 2173.05h). "component of halides is one of"; should be --component of halides is chosen from the group containing--
- Claim 22: should be in the form of a Markush grouping (MPEP 2173.05h). "wherein, the inert gas"; should be --wherein the inert gas is chosen from the group containing--
- Claim 23: should be in the form of a Markush grouping (MPEP 2173.05h). "small amount of metals such as"; should be --small amount of metals chosen from the group containing--

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2,6,14, and 17 recites the limitation "said halogen component of halides" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1,2,10, and 11 rejected under 35 U.S.C. 102(e) as being anticipated by Leng et al. (US Patent 6,469,444).

Re claim 1: Leng et al. discloses a metal halogen electrodeless illumination lamp comprising a microwave generator (figure 1, 16) coupled via a coupling means (figure 1,18) with a microwave cavity (figure 1, 6) which contains a discharge bulb (figure 1, 10), and a microwave screen (figure 1, 8) its function being performed by some part of the microwave cavity walls, which is transparent to optical radiation, the discharge bulb containing a fill mixture of metal halogens which emits visible optical radiation featuring a molecular spectrum, immediately when excited with a high frequency discharge, and

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an inert gas, of which the fill mixture of metal halogens includes halides of Sn and Al (column 2, lines 32+).

Re claim 2: Leng et al. discloses a component of halides chosen from the group containing chlorine, iodine or bromine (figures 9,12,13 and 15).

Re claim 10: Leng et al. discloses a high-pressure lamp (column 1, lines 18+). Wherein a high-pressure lamp inherently has a fill substance, which would allow the lamp to maintain the gas vapor pressure in the range of 1-20 atm at working temperature.

Re claim 11: Leng et al. discloses an inert gas chosen from the group containing argon or xenon (column 2, lines 2+)

Claims 13,21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Dolan et al. (US Patent 5,834,895).

Re claim 13: Dolan et al. discloses a metal halogen electrodeless illumination lamp comprising a microwave generator (figure 1,6) coupled via a coupling means (figure 1, 7) with a microwave cavity (figure 1,4) which contains a discharge bulb (figure 1, 3), and a microwave screen (figure 1, 5) its function being performed by some part of the microwave cavity walls, which is transparent to optical radiation, the discharge bulb containing a fill mixture of metal halogens which emits visible optical radiation featuring a molecular spectrum, immediately when excited with a high frequency discharge, and an inert gas, of which the fill mixture of metal halogens includes bismuth halide (columns 3-4, lines 60+; especially column 4, lines 22+).

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Re claim 21: Dolan et al. discloses the amount of a fill substance that would allow to maintain the gas vapor pressure in the range of 1-20 atm at a working temperature of the lamp (column 3, lines 61+).

Re claim 22: Dolan et al. discloses the inert gas chosen from the group containing argon or xenon (column 3, lines 59+).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5,13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leng et al. in view of Furmidge et al. (US Patent 3,867,665).

Leng et al. discloses as above.

Leng et al. fails to disclose adding bismuth halide, to a fill comprising tin halide and aluminum halide, within a metal halogen lamp.

Furmidge et al. discloses a bismuth halide, tin halide and aluminum halide in combination within the fill material (column 5, lines 10+).

One of ordinary skill at the time the invention was made would have been motivated to combine the system disclosed by Leng et al with that of Furmidge et al. because by using all three halides the color appearance and color retention properties

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of the bulb are substantially improved (column 5, lines 6+). It further improves the radiation in both the ultra-violet and visible wavebands (column 5, lines 12+).

### ***Allowable Subject Matter***

Claims 3,4,6-9,12,14,15,17-20 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The best prior art of record to Leng et al., Dolan et al. and Furnidge et al. , teaches a conventional discharge lamp. However, they fail to teach or fairly suggest using metal halogens:  $\text{SnBr}_2$  and  $\text{AlI}_3$  (in combination),  $\text{SnI}_2$  and  $\text{AlBr}_3$  (in combination),  $\text{BiI}_3$ . They also fail to teach or fairly suggest using a halide component chosen from the group of chlorine, iodine or bromine.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beth Gemmell whose telephone number is (703) 305-1937. The examiner can normally be reached on Monday-Thursday 6:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for



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the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

emg  
October 31, 2002

